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ABSTRACT

Four basic objectives were investigated in this study. Age differences were tested on various dependent skills measured to determine if consumer skills change over a period of time; the extent of integration of the dependent measures within the two age groups was ascertained; antecedent processes within groups that account for variation in consumer skills were sorted out; and some possible logical causal links between antecedent, intervening, and dependent variables were examined. The subjects for this study were 132 public middle school and 180 high school students in a predominantly rural area. The students were asked a number of questions about their own financial resources and the sources of these funds. Neither group of adolescents scored very high on price accuracy, slogan recall, or intrafamily communication about consumption, although brand specification was fairly high and the various dependent measures were well integrated among both groups. The relatively low level of consumer skills may indicate that the adolescent is not provided with learning opportunities and appropriate modeling experiences from parents, teachers, and other socialization agents. (RB)

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SOME COMMUNICATION AND DEMOGRAPHIC DETERMINANTS OF ADOLESCENT CONSUMER LEARNING

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From an applied-knowledge or problem-solving perspective, adolescents represent a lucrative market for consumer goods. One recent tally estimated the annual market at $3.5 billion discretionary income, $45 billion actual spending and influential purchases (adult expenditures in which youth exerted an influential role) at $145 billion (Business Week, 1969). A Rand Youth Poll found that 16- to 19-year-olds averaged $18.35 (males) and $19.50 (females) weekly (Changing Times, 1969).

From a theoretical perspective, adolescents provide a case for testing various socialization theories within a consumer behavior context. Adolescence is a crucial period for socialization, a tense juncture between past dependency and future independence. It is a time when the individual first begins to conceptualize himself and consciously moves toward change, when personal identification focuses more on friends, peers, teachers and others than on one's family and when social demands increase considerably and become more diverse (Campbell, 1969).

Whether one conceptualizes socialization as a process of transformation of a helpless infant into a mature adult (Secord and Backman, 1964) or as a complex interaction process in which norms, morals, ethics, technology, organizations, etc. are transferred over generations (Walters and Paul, 1970), distinctive differences as well as similarities among individuals emerge from the process (Secord and Backman, 1964).

Since socialization represents changes in a person's behavior as he moves through a life cycle, behavioral generalizations may be seen as conditional to a particular phase of his life cycle with different clusters of variables dominating each development stage (McLeod and O'Keefe, 1972).

Thus at specific life cycles, different factors may be seen as affecting the outcome of the consumer socialization process we have chosen for analysis--the acquisition of specific consumer skills, knowledge and attitudes. Ward and Wackman (1971), for example, found that although younger (eighth and ninth graders) and older (tenth, eleventh and twelfth graders) adolescents may be at the same level of consumer learning, different processes of learning may be involved for the two groups.

In terms of learning, certain cognitive processes may be viewed as intervening between acquired consumer skills (criterion variables) and environmental (social and demographic) indices (independent variables). Demographic characteristics such as socioeconomic status and intelligence, in effect, locate the adolescent in his social environment, while learning processes such as motivations and attitudes intervene between these and the outcomes of consumer socialization. Thus adolescent consumer learning becomes a social process, rather than a simple stimulus-response phenomenon under which, for example, the media would be seen basically as dispensers of product information (Ward and Wackman, 1971).

Criteria of consumer learning explored in past studies include advertising recall, attitudes toward advertising, materialism and effects of ads on purchase behavior. Among intervening processes examined have been intrafamily communication about consumption, motivations for advertising exposure and peer and family influence. Socioeconomic status, discretionary income, intelligence, media exposure, sex and age constitute some of the independent variables analyzed.

Consumer learning can be ordered by various levels of cognitive complexity. For instance, Wackman, Reale and Ward (1971) consider advertising recall (slogan recall of commercial network television advertising) as simple learning while behavioral response to advertising (self report of product purchase after advertising exposure) is seen as a high level of learning. Falling within intermediate levels are orientations toward marketing institutions (attitudes toward advertising) and orientations toward consumption (materialism scale).

While it seems reasonable to assume that practically every consumer possesses such skills, knowledge and attitudes to a degree, one would expect considerable variance in the extent to which they are operative in the population as a result of differences in intervening learning processes (i.e. learning processes function to alter socialization outcomes).

Different motivational bases of consumer behavior acquired by different processes are functionally related to individual variance in skills, attitudes and knowledge. That is, the motivational bases differ as a function of different socialization practices (Ward, 1972b).

Two particularly relevant kinds of consumer learning are those conceptualized by Ward (1972b) as that involving consumption as an aspect of role-enactment and that which is specifically related to consumption behavior and may or may not have implications for later behavior. The first relates to how youth acquire attitudes concerning the social significance of goods.

Culture, family, peers and mass media are seen as especially influencing such learning, and even social class may affect adolescent perceptions of material goods and consequent implications for role-enactment (Ward, 1972b).

Research knowledge is limited on the second kind of learning, but early experience is generally thought to be a strong influence. Such direct experience as a mother teaching a child how to "squeeze-test" a loaf of bread adds to his repertoire of consumer skills. Consumption-relevant skills may also be acquired through less intentional practices as peer communication. An adolescent, for example, may learn "good" or "bad" brands of cars from his friends.

The objectives of research on consumer socialization, such as our adolescent study, thus include sorting out the intervening and independent variables and identifying their links to socialization outcomes (dependent variables).

PURPOSES OF RESEARCH

We had four basic objectives in mind in designing our research. First, we wished to test age differences on various dependent skills measures to determine if consumer skills change over time. Thus we hypothesized that older adolescents would score higher on the more complex consumer skills (i.e. brand awareness and price accuracy) than younger adolescents. No differences were expected on slogan recall, our simple measure of consumer learning.

A second objective involved ascertainment of the extent of integration of the dependent measures within the two age groups. That is, we wished to determine how patterns of consumer skills change over time.

Third, we wished to sort out antecedent processes within groups that account for variation in consumer skills. In addition to age, intelligence

and academic achievement, consumer learning is seen as conditioned by personal financial resources, socioeconomic status and family communication about consumption. Such variables serve as consumer opportunity indices.

Finally, our study was intended to examine more closely some possible logical causal links between antecedent, intervening and dependent variables.

SAMPLE

Our data is based on interviews conducted in late November 1973 with 132 public middle school (sixth, seventh and eighth grades) and 180 high school students (ninth through twelfth grades) in DeForest, Wisconsin. DeForest is a predominantly rural, farming community of about 2,000, twelve miles northeast of Madison. Questionnaires required approximately one hour to complete.

An additional research objective included comparison of results with those from a similar sample of Maryland adolescents (Ward and Wackman, 1971; Ward, 1971, 1972a; and Ward and Robertson, 1971). While the Maryland survey included 537 eighth and ninth graders and 557 tenth, eleventh and twelfth graders in Prince Georges County, Maryland, and "slightly over-represented the middle class," respondents in our smaller sample came primarily from the lower-middle class SES stratum with a Duncan SES mean of 36.38 percentile.

Males numbered 157 in our project, while there were 155 females. Sex ratios were nearly equal in all grades, and respondents by grades ranged from 32 (sixth grade) to 59 (sophomores). Ward and Wackman did not provide sex or respondent grade ratios.

VARIABLES

Independent Locator Variables

Duncan's socioeconomic index was used as a measure of socioeconomic status (SES). The index consists of a 5-digit occupational code: a 3-digit IRS code and a 2-digit code indicating the population percentile of occupation. Only the latter is reported (Table 1). Ratings ranged from 7-90 in the middle school sample and from 6-96 in the high school sample.[1]

Different intelligence test scores were used for the two samples. In the middle school Iowa Test Scores were made available by school officials. Henmon-Nelson Test were used for the high school youngsters.

Academic achievement was indexed by a 4-point G.P.A. score provided by the school counselors. Mean values are shown in Table 1.

TABLE 1 ABOUT HERE

The youngsters were asked a number of questions about their own financial resources and the sources for these funds. For example, the particular item used in this analysis, amount of weekly spending, was: "About how much money would you say you personally spend in an average week?"

While the high school youngsters reported spending, on the average, more than twice as much as the middle school students, these differences did not prove significant. Personal expenditures in an average week for the high school youngsters ranged from \$0-60(n=175) compared to a range of \$0-30 (n=131) for the younger adolescents.

Intervening Information Processes

We used similar questionnaire items as Ward and Wackman (1971) to measure intrafamily communication about consumption, media exposure and reasons for attitudes toward advertising.

A six-item Likert scale was used to index the amount of intra-family communication about consumption. Subjects were asked to indicate how often they interacted with parents concerning purchasing advice, prudent spending, budgeting and opinions concerning items already purchased. Three of the six items are statements about the frequency of information or opinion-giving on the part of the parents, two concern the frequency of information or opinion-giving on the part of the child, and one concerns the sharing of information or opinions. Response alternatives ranged from "very often" (scored as "5") to "never" (scored as "1"). Scores across the six items were aggregated.

Contrary to the findings of Ward and Wackman (1971) who report significantly more frequent parent-child communication among younger than older adolescents (junior high students), our data reveal only marginal differences and indicate that the frequency of parent-child communication about consumption is rare in both younger and older adolescent homes. Information concerning the frequency of parent-child communication about consumption in the Prince Georges County studies (i.e. Ward, and Wackman, 1971; Ward and Robertson, 1971) has not been clarified, only the differences between the younger and older adolescents. If a comparison between the Prince Georges County data and our data could be made, however, differences on this measure might be expected on the basis that our sample includes predominantly lower-middle and lower-class homes, while the Maryland sample over-represents the middle

class. Other studies of the relationship of family communication patterns to adolescent political socialization have revealed SES as a significant correlate of family communication patterns, higher SES being associated with a communication environment in which the child is stimulated to express his own ideas and question the beliefs of others (i.e. Chaffee, McLeod and Wackman, 1973). Nevertheless, in our samples the correlation between SES and family communication about consumption was very small (r=-.02, middle school, and r=.12, high school).

We also examined the extent of product information-seeking that might usually occur prior to making a purchase decision. For each of six listed products and services, respondents were asked to check all information sources they might seek out for advice prior to purchase. The product-service list included school supplies, sports equipment, an automobile, clothing, small appliances and insurance policies. Response alternatives included brother or sister, friends, television ads, magazine ads, salespersons, newspaper ads and one or both parents.

Anticipating that the extent of information-seeking might be greater in those purchase decisions involving more risk and uncertainty (Chaffee and McLeod, 1973), we arbitrarily divided the product-service list into three categories: high risk--insurance policies and automobile; medium risk--clothing and sports equipment; and low risk--small appliances and school supplies. Within age groups, we found no significant differences in the average number of sources sought for advice prior to purchasing high-, medium- or low-risk items. However, between age groups we found that high school students seek out more sources than middle school adolescents. Within groups

the simple correlations among items ranged from .67 to .87 (middle school) and from .63 to .74 (high school). Because of these high correlations, we aggregated scores for the six items and in Table 1 report the average number of sources the respondent would seek before a purchase decision. Adolescents from both the high school and middle school samples mentioned more personal sources than media sources.

To get a better handle on the influence of various sources on purchase choice, we asked respondents to rate the amount of influence of various sources on their latest purchase costing more than five dollars. In both groups, friends and siblings received the highest rating, though only marginally higher than the rating given to parents. Among media sources, which received lower ratings, the most influential were television and radio commercials.

The most interesting finding concerning this question, however, is that only about one-fourth of the adolescents in both samples indicated any of these sources "much or very much influenced the latest purchase decision." The highest mean rating on this 5-point scale ("1"=no influence to "5"=very much influence) was 2.83 by the high schoolers for friends and siblings. These low ratings of possible sources of influence on actual purchase decisions are consistent with the relatively few sources of information that would be sought prior to making a purchase decision (Table 1). For example, out of a possible seven sources of information, the average number sought for "high risk" items was 2.00 for high schoolers and 1.36 for middle schoolers.

The extent of media exposure was measured by asking respondents how much time they had spent with each medium the previous day. Table 1 shows time spent in hours. Our findings parallel those of Ward and Wackman (1971) since

the only significant difference in the two age groups is in television exposure, with younger adolescents viewing an average of one hour more than their older counterparts.

Three distinct motivations for exposure to commercial content in the media were explored. Items were included to determine whether "social utility" reasons might be among the motivations for exposure. For example, the content of commercials may help the viewer form impressions of what kinds of people buy certain products or brands and may help in making associations between products and various life styles. Seven items were used as measures of "social utility" reasons for exposure to advertisements. For example, on one of the items respondents were asked to indicate the extent to which they felt "Commercials help me learn how to make a good impression on others." Response alternatives ranged from "strongly agree" (scored as "5") to "strongly disagree" (scored as "1").

Two items were employed to determine if commercials include content which may serve as agenda for later interpersonal communication ("communication utility"): "I watch commercials to give me something to talk about with my parents" and "I watch commercials to give me something to talk about with my friends." Response alternatives were identical for all motivation measures.

Finally, two items were included to determine if commercial content might include information about other life styles emulated by the viewer. These "vicarious consumption" measures were: "They show me things I'd like to have" and "They let me dream of the good life."

Age differences on these motivations for exposure to advertising are in the same direction as those reported by Ward and Wackman (1971). The mean

values on measures for both samples (Table 1), however, indicate that only "social utility" reasons for the younger and older adolescents constitute a relevant motivation for exposure. These reasons are more relevant as expected utilities for viewing among younger adolescents. Age differences for "communication utility" and "vicarious consumption" reasons are significant.

Consumer Learning Skills

Four indices of consumer learning were utilized. Price accuracy and brand specification are conceptualized as more complex learning skills, and we expected age differences in the extent to which these skills have been acquired.

Respondents were provided a list of 12 product items, including some which they may have already personally purchased (e.g. AM-FM radio) and family durable and non-durable goods on which they may have purchase influence (e.g. quart of ice cream, loaf of bread, 25-inch color television console and 2-door intermediate-size sedan car). Brand preferences were also requested. Because missing data for price estimates of a bottle of aspirin, hamburger and dictionary were substantial in both samples, these items were eliminated in calculating price index means in Table 1. Price ranges for each item were determined by consulting recent issues of Consumer Reports and checking with merchants in the DeForest community to ascertain cost ranges at the time the questionnaires were administered. A price estimate was scored correct if it fell within these observer-determined ranges. Scores across the nine items were then aggregated. The maximum possible score was nine; the minimum was zero. As expected, older adolescents, scored higher on the price index, albeit neither group demonstrated much proficiency on this skill.

Brand specification scores represent the total number of correct brand names provided for the list of 12 product items. When in doubt as to whether a correct brand name had been provided, answers were either arbitrarily scored or, in those cases where store names were also provided, corroborated with local merchants. As expected, older adolescents provided more brand preferences for this total array of products, although both adolescent groups were quite proficient. In both samples we found less variance on this consumer learning skill than on any other dependent measure. The coefficient of variation was 12 percent for the high school sample and 18 percent for the middle school.

Slogan recall and attitudes toward advertising were conceptualized as less complex skills. Previous research on middle and high school adolescents found no age differences in the achievement levels on similar skills but indicated that different processes may be at work in acquiring and retaining the skills (Ward and Wackman, 1971; Ward and Robertson, 1971; James, 1971). For example, age differences may occur in the motivations for exposure to advertising, which consequently define the extent of effort one expends to encode advertising messages and utilize them in some eufunctional way (e.g. as a means of learning brand names to differentiate products).

The simple cognitive measure of slogan recall was indexed by asking respondents to complete 22 advertising slogans such as "Things go better with _____." Means in Table 1 represent average total correct scores. High school youngsters had marginally higher scores on this measure.

Respondents were asked if they agreed with seven general statements on the purpose of advertising and whether advertising was eufunctional. Response

alternatives ranged from "strongly agree" (scored as "5") to "strongly disagree" (scored as "1"). Means in Table 1 are per-item average scores. Older adolescents were somewhat more negative in their general attitudes toward advertising.

INTEGRATION OF CONSUMER LEARNING SKILLS

In addition to exploring age differences in the acquisition of consumer learning skills and in antecedent processes and factors related to these skills, we also examined the extent to which these skills are integrated within adolescent life-cycle stages.

Table 2 indicates the simple correlations between consumer learning measures and results of tests of differences in these relationships between the two samples. In both samples, correlations among cognitive measures are significantly different from zero. In the high school sample, the negative correlation between price accuracy and attitudes toward advertising is

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TABLE 2 ABOUT HERE

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significant, suggesting that advertising messages are not viewed by adolescent consumers as sources of price information. The absence of this kind of information in ad messages may be one reason for negative attitudes toward advertising.

Intercorrelations among cognitive measures (i.e. price accuracy, brand specification and slogan recall) are substantial enough to suggest that these skills are well integrated and may be learned together. There are at least two plausible explanations for these relationships. First, the adolescent

consumer may encode such cognitions through a process of incidental learning. For example, he may indirectly acquire such skills as a result of information gained while accompanying others on shopping trips, as a result of interpersonal communication about his own experiences or as a result of mass media exposure.

Second, of course, these skills may be learned as a result of purposive behavior. The adolescent consumer may consciously approach some purchase choices as a series of decision points and organize his efforts to reduce uncertainty around specific attributes which define the social, psychological and economic costs and benefits associated with possible purchase alternatives. Prices, for example, represent a simple monetary attribute against which to evaluate various objects (e.g. products and brands of products). Information-seeking activities may depend on perceptions of how differentiated alternative products really are. Undifferentiated products such as toothpaste and school supplies may, at first, be purchased randomly, with subsequent selective retention of information from commercials for those brands serving to reinforce a particular brand selection.

On the other hand, in making a purchase decision on a very differentiated durable good such as a bicycle, there may be a considerable amount of pre-decisional information-seeking. To reduce search time and costs under these circumstances, the consumer may seek an umbrella-type attribute to summarize several relevant attributes. For example, the attribute, "brand name," may provide enough cues to price, quality and warranty of the product for a purchase decision.

The point is that these various cognitive consumer concepts may be well integrated for the adolescent, as a result of purchasing experiences of his own or some significant other and/or because they represent meaningful attributes against which to evaluate various products before making a purchase decision.[2]

Patterns of relationships among these cognitive measures do not seem to change over time. We found no significant differences in the intercorrelations when comparing high school with middle school (Table 2, footnote).

Comparing the extent of integration of slogan recall and attitudes toward advertising in our data with the Prince Georges County data, we find somewhat stronger negative relationships in both of our samples than those reported by Ward and Wackman (1971). However, these correlations are not significantly different from zero nor, in comparing the two samples, are they different from each other. These findings support the relationships between these two indices discovered in the earlier survey.

IMPORTANT ANTECEDENTS OF CONSUMER LEARNING

In analyzing the Maryland data, Ward and Wackman conclude there are different processes involved for the two adolescent groups in learning general attitudes toward advertising.

For the younger adolescents, "social utility" reasons for advertising exposure and amount of television viewing were the two most important explanatory variables, while "vicarious consumption" reasons for ad exposure, intrafamily communication about consumption and socioeconomic status are most important in explaining variations in general attitudes toward advertising among older adolescents.

Intelligence was the most important explanatory factor relating to differences in slogan recall within both age groups. Magazine reading, for the younger age group, and television exposure time, for the older group, were also important predictor variables.

TABLE 3 ABOUT HERE

Table 3 reports our data on these relationships. We include the same variables in our regression equations but arrive at somewhat different conclusions. For our younger adolescents, "social utility" and "communication utility" reasons for ad exposure were the most important predictors of general attitudes toward advertising. "Social utility" was an even stronger predictor of general ad attitudes among older adolescents. None of the other variables in the equation explained much variance in the dependent variable.

Our findings strongly support the importance of intelligence as a predictor of slogan recall but only for the younger adolescents. Intrafamily communication about consumption was the next most important predictor among younger students. Our strongest predictors of slogan recall among older adolescents were "communication utility" and "social utility," both negatively related to recall. Ward and Wackman report weak positive correlations between these motivation measures and ad recall; our correlations are negative and slightly different from zero.

Thus, we also find different processes involved in learning these two consumer skills, but they do not coincide entirely with those emerging from

the Maryland study. Clearly, the studies are closer in their explanations of general attitudes toward advertising. In both age groups in both studies, purposes or motivations for exposure to ads are important criteria for evaluating ads.

Younger and older adolescents who expect to derive social and communication utility from ad messages are more likely to render favorable evaluations of advertising. However, we do not find socioeconomic status to be an important predictor of the attitudes of older adolescents. Further, we report modest but negative beta weights between intrafamily communication about consumption and attitudes toward advertising. In the Maryland study, these relationships were modest but positive.

Our variables were weakest in explaining brand specification (R=.29, both age groups), with intelligence the only significant predictor of this skill among younger students. Television exposure was of some importance in both groups, although negatively related to brand specification. Among older adolescents, the negative regression coefficient between social utility and brand specification suggests that brand names may not be a salient attribute for product evaluation among those viewing ads for social utility reasons. The opposite inference may be drawn from the positive regression coefficient relating social utility to brand specification among the middle schoolers.

The important predictors of price accuracy vary considerably between younger and older adolescents. The margin of difference between the multiple correlation coefficients was greatest for price accuracy (R=.39 for the high school sample, R=.27 for the middle school sample). Another look at Table 3

demonstrates the radically different processes associated with acquisition of this consumer skill at different adolescent stages.

Print media exposure appears to be the only salient means by which this skill is acquired by younger adolescents. Prices appear not to be a product attribute that is discussed in the homes of younger adolescents, although intrafamily communication about consumption within older adolescent families is a significant and positive predictor of price accuracy. Increases in television exposure time are negatively related to price accuracy in both age groups, as is the case with both communication and social utility reasons for exposure.

For the older adolescents, the availability of spending money, coupled with family communication about consumption, are the most significant predictor variables.

TRIMMED PATH MODEL RELATING BRAND SPECIFICATION TO OTHER KEY VARIABLES

One objective of our research was to examine more explicitly some possible logical causal links between antecedent, intervening and dependent variables.

As an initial step, we performed a factor analysis on the variables included in Table 1 and discovered common factor loadings for a number of variables whose intercorrelations are reported in Table 4. Among the dependent variables, brand specification and slogan recall loaded on the same factor.

TABLE 4 ABOUT HERE

Because of the strong correlations among brand specification, slogan recall, and buying intentions reported in previous research (Stapel, 1971), we concentrated on brand specification as a criterion variable. Figure 1 presents the final path model showing links among input, independent and dependent measures and is based on analysis of high school data. Table 4 provides the R-matrix for both samples. Input variables in the model are (i) specific product information seeking, (ii) "communication utility" reasons for ad exposure, (iii) Grade point average, (iv) intelligence and (v) age. While there are some intercorrelations among these input variables that are different from zero, they are not large enough to present a problem of multicollinearity.

FIGURE 1 ABOUT HERE

An examination of the two samples for any differences in the relationships among input, independent and dependent variables revealed only three differences. Price accuracy knowledge appears to be a strong correlate of age among older adolescents, while these two variables are unrelated among younger students. With older adolescents, spending increases somewhat with age, but this positive relationship is much stronger among younger students. The markedly different relationship between intelligence and spending between older and younger adolescents is difficult to explain. Despite different IQ tests employed to measure intelligence, no correlational differences within groups would be expected on methodological grounds. The strong negative correlation between IQ and weekly spending among older adolescents may be due to the influence of a

third variable, socioeconomic status, which is not operative in the same way in the middle school sample.

Brand specification seems primarily a function of slogan recall, price accuracy and media exposure (negative beta weight--Table 5) for high schoolers, while price accuracy and slogan recall help best explain this skill for the middle school sample. The link between media exposure time and brand specification is weak among middle school respondents. Since slogan recall is a form of brand specification (respondents were asked to recall slogan brand names), a positive link to brand specification would be expected. The negative functional relationship with media exposure, however, is not as one would expect since a considerable amount of media content is devoted to brand-name advertising. One possible explanation may be that adolescents "tune out" commercials and ads, supported by the low means for both age groups on the slogan recall measure.

The moderate positive link between brand specification and specific product information seeking for both groups may indicate the adolescent consulting a diversity of sources has already processed brand names and is thus seeking more than merely brand preferences from his sources.

TABLE 5 ABOUT HERE

On slogan recall, age is a particularly important predictor for both high school and middle school, although price accuracy is stronger for the younger group. Communication utility reasons for watching ads is quite negatively related to slogan recall for the older group but bears no functional

relationship for younger adolescents. Price accuracy is also moderately linked with slogan recall for both groups.

Price accuracy itself is functionally related to both age and academic achievement (GPA) among both age groups and also moderately related to weekly spending for high school students.

Since increased spending would presumably signify a greater number and variety of products purchased and a consequent greater acquisition of price information, the positive functional relationship between price accuracy and weekly spending is not surprising. Increasing age and subsequent pricing experience would also presumably lead to greater price accuracy.

Since the personal weekly spending mean for the younger adolescents is fairly low, the weak link between spending and price accuracy within this group may reflect low levels of personal pricing experience.

Academic achievement's strong link to price accuracy for younger adolescents (the highest predictor) and moderate relation among high schoolers may reflect an acquisition of consumer learning skills of this type from relevant academic courses.

The opposite links for high school vs. middle school adolescents between age and media exposure are as predicted. Television exposure particularly declines with age, although radio exposure did increase with age in our study, along with magazine and newspaper time. Specific product information seeking is rather negatively linked to media exposure among older adolescents and slightly negatively linked among the younger group. The media, in general at least, play little role as sources for advice, as discussed earlier. Personal sources such as peers and family serve as salient information dispensers.

Finally, links between weekly spending and age and weekly spending and intelligence are rather consistent across samples. Age is quite strongly linked to spending, particularly for younger adolescents, while intelligence serves a negative function. Results, not reported in this paper, indicate that higher IQ adolescents are more likely to save money and slightly less likely to have a part-time job. It should be remembered, however, that the IQ scores for the two groups are different tests, and thus this interpretation should be viewed with caution.

GPA is positively linked to weekly spending for high schoolers and negatively linked for middle school respondents. No plausible explanation is offered for this observation.

We have taken a research-then-theory approach to explaining how brand specification and slogan recall are acquired as consumer learning skills. Conceptually, our model suggests that brand knowledge is a function of exposure to advertising messages in the mass media, though the recall of ad slogans, from which brand cognizance is obtained, does not increase with increases in exposure time (i.e. it may decrease). Brand cognizance may also result from specific product information seeking from personal and media sources.

Retention of advertising messages, in turn, varies with the motivations for exposure, with the extent to which economic risks associated with specific products are accurately understood (i.e. prices) and with age. Spending money seems to be an important necessary condition for interest in prices as an attribute of economic goods and services. This kind of knowledge also varies with age but, because the main source of these funds is apparently some part-time

work that takes the adolescent away from his studies, is negatively related to school achievement.

DISCUSSION AND IMPLICATIONS

Cross-sectional research does not allow one to study the dynamics of a process such as consumer socialization, but it does allow one to tease out important relationships among variables and plow the ground for later longitudinal studies that would otherwise be too expensive.

We plan to conduct both experimental and longitudinal studies and expand our sample to include other age groups and community settings in the future to achieve a fuller understanding of consumer behavior. But, for now, we have gained a better understanding of some of the psychological structures associated with consumer learning. Such understanding is particularly important in studying consumer information-seeking and processing as a developmental phenomenon (Ward and Wackman, 1973).

Just how rational consumers are is not clear, but much of the research literature on adult consumers indicates that such behavior is often, if not primarily, irrational (Chaffee and McLeod, 1973), and to some extent our data tend to bear this out with younger consumers. For example, neither group of adolescents scored very high on price accuracy, slogan recall or intrafamily communication about consumption, although brand specification was fairly high and the various dependent measures were well integrated among both groups. This may well be a function of information-seeking, with advertising, for example, making the adolescent cognizant of specific brands, which then motivates him to seek further information about the products. On the other hand, the relatively low level of consumer skills may simply indicate the adolescent

is not provided with learning opportunities and appropriate modeling experiences from parents, teachers and other socialization agents.

These and other questions are for future research, and in this sense we view our study as an exploratory means toward more fruitful longitudinal and experimental efforts.

It does seem clear, however, that different processes are at work within the two groups beyond the expected maturational differences. What is not clear is whether these reflect true developmental changes or are simply characteristic only of the two groups examined. Along this same line, other cognitive consumer measures need to be designed to tap the true nature of consumer socialization.

Table 1

MEAN VALUES OF DEPENDENT CONSUMER SKILLS AND INDEPENDENT VARIABLES

	HIGH SCHOOL (N=180)	MIDDLE SCHOOL (N=132)
Dependent Variables		
Price Accuracy[a]	3.55(1.55)	2.49(1.63)
Slogan Recall	13.63(3.83)	12.52(4.42)
Brand Specifications[a]	11.04(1.33)	9.90(1.80)
Advertising Attitudes	2.48(0.62)	2.64(0.71)
Intervening Information Processes		
Intrafamily Communication Re: C	13.11(3.99)	13.32(3.85)
Specific Product Info Seeking[a]	1.90(1.01)	1.40(0.83)
Newspaper Expsoure Time	0.44(0.73)	0.23(0.29)
TV Exposure Time[a]	2.33(2.08)	3.04(2.24)
Radio Exposure Time	2.19(2.29)	1.22(1.56)
Magazine Exposure Time	0.31(0.52)	0.25(0.47)
Social Utility	2.39(0.82)	2.75(0.82)
Communication Utility[a]	1.99(1.02)	2.43(1.04)
Vicarious Consumption[a]	2.83(1.02)	3.09(0.95)
Locator Variables		
SES	36.38(23.72)	36.15(23.95)
GPA	2.46(0.91)	2.80(1.18)
Personal Weekly Spending	7.37(8.71)	3.08(4.35)

[a]Mean values for high school and middle school are significantly different using one-tailed t-test with $t_{.025} \rightarrow 1.96$. Standard deviations are in parentheses.

Table 2

RELATIONSHIPS AMONG CONSUMER LEARNING MEASURES[a]

	Prices	Brands	Recall	Attitudes
Price Accuracy	___	.39	.32	-.02
Brand Specification	.33	___	.33	.04
Slogan Recall	.22	.42	___	-.12
Attitudes toward Ads	-.23	-.05	-.14	___

[a] Table entries are product-moment correlations. Entries in the upper-right triangle of the matrix are correlations for the middle school sample. Entries in the lower-left triangle of the matrix are correlations for the high school sample. For the high school sample r's $\geq$ .15 (p=.05) and r's $\geq$ .20 (p=.01) are significantly different from zero. For the middle school sample r's $\geq$ .17 (p=.05) and r's $\geq$ .21 (p=.01) are significantly different from zero.

NOTE: We took the values in the R-matrix for the high school sample and compared the corresponding correlations from the R-matrix for the middle school sample. In testing for correlational differences between the two groups, none of the six tests revealed significant differences between the correlations (p=.05, z>1.96). For example, the correlation between price accuracy and brand specification based on the high school data is not significantly different from the price accuracy-brand specification correlation based on middle school data.

Table 3

RELATIONSHIP AMONG ANTECEDENT, INTERVENING, AND DEPENDENT CONSUMER LEARNING VARIABLES[a]

	Prices		Brands		Recall		Attitudes	
	HS	MS	HS	MS	HS	MS	HS	MS
Socioeconomic Status	.04	-.01	.03	.09	.12	-.03	.05	.06
Intelligence	.13	.06	.09	.18*	.10	.26*	-.02	-.06
Weekly Spending	.25*	.04	.07	-.10	.14	.03	-.06	-.04
Family Communication About Consumption	.20*	-.10	.11	-.02	.01	.16	-.12	-.11
TV Exposure Time	-.08	-.11	-.12	-.14	.03	-.11	.13	.06
Newspaper Exposure Time	-.11	.18*	-.04	-.04	-.04	.04	-.00	.09
Communication Utility	-.11	-.11	-.08	-.11	-.17	-.08	.08	.16
Vicarious Consumption	.14	.09	.04	.02	.04	.09	.01	-.11
Social Utility	-.13	-.01	-.14	.11	-.16	-.03	.24*	.17
Multiple Correlation Coefficient (R)	.39	.27	.29	.29	.35	.34	.39	.35

[a] Cell entries are beta-weights between the independent variables and the four dependent variables. These standardized regression coefficients represent the relationship between the independent and the dependent variable with all independent variables controlled.

*This denotes variables in the equation accounting for a significant amount of variance in the dependent measure (p=.05) or the regression coefficients with probable values different from zero.

Table 4

CORRELATIONS AMONG INPUT AND INDEPENDENT CONSUMER LEARNING VARIABLES[a]

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	1	2	3	4	5	6	7	8	9	10
1. Brands	___	.33	-.09	.39	.22	-.10	-.07	.24	.18	.01
2. Slogan recall	.42	___	.03	.32	.24	.02	-.05	.21	.26	.29
3. Media exposure	.15	.10	___	.02	-.02	-.03	.01	.08	.12	.13
4. Price accuracy	.33	.22	.02	___	.15	-.15	-.11	.29	.08	.09
5. Information seeking	.20	.10	.06	.14	___	-.15	-.11	.18	.28	.04
6. Weekly spending	.03	.07	.01	.20	-.07	___	.01	-.23	.05	.40
7. Communication utility	-.18	-.26	.10	-.13	-.07	.12	___	-.13	-.15	-.08
8. GPA	.32	.25	.16	.21	.38	-.15	-.25	___	.16	-.27
9. IQ	.09	.09	.08	.09	.19	-.27	-.12	.38	___	.42
10. Age	.20	.30	.07	.32	.13	.19	-.16	.43	.07	___

[a]Table entries are product-moment correlations. Entries in the upper-right triangle of the matrix are correlations for the middle school sample. Entries in the lower-left triangle are correlations for the high school sample. For the high school r's ≥ .15 (p=.05) and r's ≥ .20 (p=.01) are significantly different from zero. For the middle school, r's ≥ .17 (p=.05) and r's ≥ .21 (p=.01) are significantly different from zero.

NOTE: Values in the R-matrix for the high school sample were compared to the corresponding correlations from the R-matrix for the middle school sample. Of the 45 individual tests of difference between independent correlations, only three led to the rejection of the null hypothesis (p=.05, z>1.96). The age-price accuracy, weekly spending-IQ and weekly spending-age correlations differ between samples. Values enclosed by the same geometric symbol are different from each other.

Table 5

COMPARATIVE PATH MODEL STATISTICS FOR
MIDDLE SCHOOL AND HIGH SCHOOL SAMPLES[a]

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EQ. 1 Dependent Variable: Brand Specification

Independent Variables	High School Zero-Order Correlation	High School Path Coefficient	Middle School Zero-Order Correlation	Middle School Path Coefficient
Slogan Recall	.42	.36	.33	.21
Price Accuracy	.33	.20	.39	.30
Media Exposure Time	-.24	-.19	-.09	-.09
Specific Product Information-seeking	.20	.10	.22	.12
Residual	...	.84	...	.88
R=.53, Variance Explained (V.E.)=28% Standard Error of the Estimate (S.E.E.)=.19			R=.47, V.E.=22% S.E.E.=.27	

EQ. 2 Dependent Variable: Slogan Recall

Age	.30	.23	.29	.26
Communication Utility	-.26	-.21	-.06	**
Price Accuracy	.22	.12	.32	.30
Residual	...	.92	...	.91
R=.39, V.E.=15%, S.E.E.=3.56			R=.41, V.E.=17%, S.E.E.=4.07	

EQ. 3 Dependent Variable: Media Exposure Time

Specific Product Information-seeking	-.07	-.15	-.02	-.03
Age	-.15	-.13	.13	.13
Residual	...	.97	...	.99
R=.21, V.E.=5%, S.E.E.=3.66			R=.13, V.E.=2%, S.E.E.=3.21	

EQ. 4 Dependent Variable: Price Accuracy

Age	.32	.22	.09	.18
Weekly Spending	.20	.18	-.15	.03
G.P.A.	.21	.14	.29	.34
Residual	...	.95	...	.95
R=.37, V.E.=14%, S.E.E.=1.46			R=.34, V.E.=11%, S.E.E.=1.55	

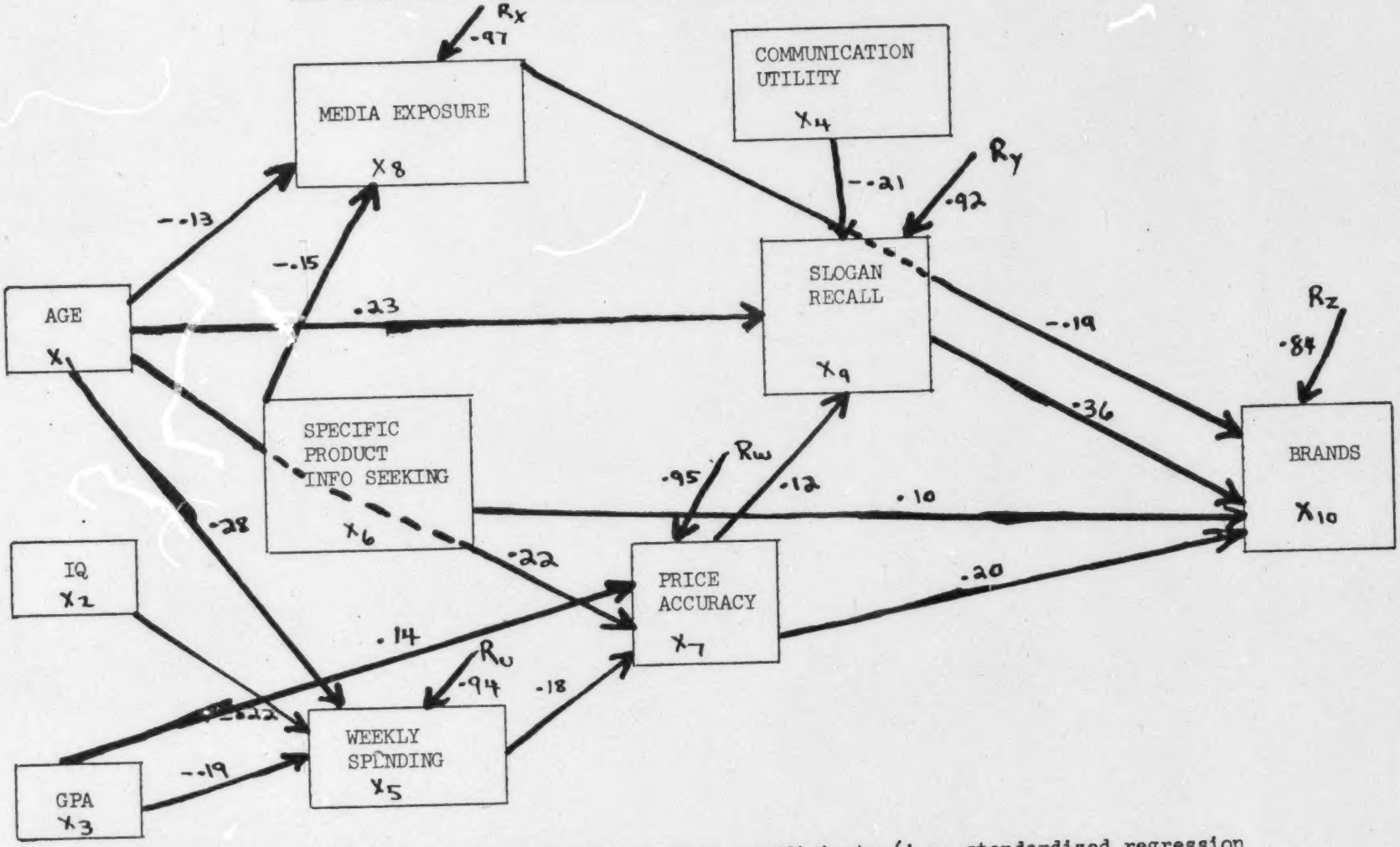
EQ. 5 Dependent Variable: Weekly Spending

Age	.19	.28	.40	.42
Intelligence	-.27	-.22	.05	-.11
G.P.A.	-.15	-.19	-.23	-.10
Residual	...	.94	...	.90
R=.37, V.E.=14%, S.E.E.=8.03			R=.43, V.E.=18%, S.E.E.=3.97	

[a]For each equation "variance explained" represents the corrected coefficient of determination ($\bar{R}^2$). $\bar{R}^2$ adjusts the raw coefficient (R^2) for the number of degrees of freedom lost through adding extra variables to the equation. Addition of extra variables usually has the effect of inflating the raw coefficient.

Figure 1

TRIMMED PATH MODEL RELATING BRAND SPECIFICATION TO OTHER KEY VARIABLES AND THESE VARIABLES TO SOME PLAUSIBLE ANTECEDENTS[a]



[a]The entries along the arrows in this recursive model are path coefficients (i.e. standardized regression coefficients) and are based on data from the high school sample. Confer Table 4 for correlations among input and independent variables.

FOOTNOTES

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1. In 92 percent of the cases respondents provided enough information to derive an SES score. In both samples, the 5-,25-,50-,75- and 95th percentile scores were 9.00, 15.00, 32.00, 56.00 and 80.00, respectively.

2. By examining the correlation matrix in Table 4, it can be seen that academic achievement (GPA), and not intelligence, is a locator variable that is consistently positively correlated with these three cognitive consumer skills.

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